

CLAIMS

1. A pressure relief device for an inflatable tire, comprising:

- a body having a chamber therein and defining a circumferential outer surface portion;

5 - an inflation valve arranged in the body;

- an overpressure valve arranged in the body for releasing air when the air pressure in the chamber exceeds a first predetermined pressure level;

characterised in that the overpressure valve comprises:

- at least one air conduit extending from said chamber through the body to said

10 circumferential outer surface portion;

- a ring-shaped resilient member which is contractively fitted around the circumferential outer surface portion, so as to keep the air conduit in a normally closed state;

the properties and dimensions of the resilient member being such that it is stretched when the air pressure in the chamber exceeds the first predetermined pressure level, so as to

15 provide an air passage from the conduit to an exterior environment.

2. A device according to claim 1, wherein the resilient member is arranged in a reduced diameter section of the outer surface portion.

3. A device according to claim 1 or 2, wherein the overpressure valve further comprises a spring element arranged in the housing, the spring element exerting a closing force on a

20 closure element, so that the closure element opens at a second predetermined pressure level.

4. A device according to any of the preceding claims, wherein the body comprises a weakened section, the properties of which are such that it breaks at a pressure which is higher than at least one of said first and second predetermined pressure level.

25 5. A device according to any of the preceding claims, further comprising a pin for releasing a stem of a tire valve, the pin being arranged to be able to slide axially in a first passageway in the body between a first position in which it cannot release the stem of the tire and a second position, in which it can release the stem, the body further defining a bypass passageway through which air may pass during inflation of the tire.

30 6. A device according to any of claims 1-4, further comprising a pin for releasing a stem of a tire valve, the pin being arranged to be able to slide axially in a first passageway in the body between a first position in which it cannot release the stem of the tire and a second position,

in which it can release the stem, the pin having a head portion at that end of the device which is remote from the tire when the device is mounted to the tire, the head portion being arranged such that it abuts an inner collar portion of the body when the pin is in its first position.

5 7. A device according to any of the preceding claims, wherein a bottom portion of the body defines a cavity for receiving a valve of the tire centrally within the body, and wherein a top portion of the body is adapted to be connected to an inflation device, the air conduit being arranged radially displaced with respect to said cavity near the bottom portion.

10 8. A device according to any of the preceding claims, further comprising a protective cover for covering at least the top portion of the body, the cover being releasably connected to the cover.

9. A device according to any of the preceding claims, further comprising a pressure adjusting system for varying at least one of the first and the second predetermined pressure level.

15 10. A device according to claim 9, wherein the pressure adjusting system comprises means for varying a cross-sectional area of the air conduit.

11. A device according to claim 9 or 10, wherein the pressure adjusting system comprises means for varying a distortion of the resilient member.

20 12. A device according to any of the preceding claims, further comprising means for emitting an acoustic signal when the air pressure in the chamber exceeds at least one of the first and second predetermined pressure level.

13. A device according to any of the preceding claims, further comprising means for emitting an optical signal when the air pressure in the chamber exceeds at least one of the first and second predetermined pressure level.

25 14. A kit comprising a plurality of pressure relief devices according to any of the preceding claims, wherein the devices define different predetermined first and/or second pressure levels.

15. A kit according to claim 14, wherein each resilient member defines a coloured outer surface portion, and wherein the outer surface portions of the respective resilient members of

the devices are coloured differently, the kit further comprising a list of colours and corresponding pressure levels.

16. A combination of a pressure relief device according to any of claims 1-12 and an inflatable tire.
- 5 17. A valve for inflation of a tire, the valve being integrated with a pressure relief device according to any of claims 1-12, so that the valve and the pressure relief device form one integrated unit.
18. A rim for an inflatable tire, the rim comprising a pressure relief device according to any of claims 1-12.
- 10 19. A rim according to claim 18, further comprising a valve for inflation of the tire, the valve being integrated with the pressure relief device, so that the valve and the pressure relief device form one integrated unit.
20. A wheel comprising a rim according to claim 18 or 19 and an inflatable tire.